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Substitute for form 1449/PTO				Complete If Known	
				Application Number	10/749,695-Conf. #2181
				Filing Date	December 31, 2003
				First Named Inventor	Albert A. VIERHEILIG
				Art Unit	1764
				Examiner Name	P. C. Singh
Sheet	1	of	6	Attorney Docket Number 0113222.00146US1	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (# known)			
/P.S./	AA*	US-3,679,763	07-25-1972	Livingston	
	AB*	US-3,793,003	02-19-1974	Othmer	
	AC*	US-3,857,921	12-31-1974	Tamura et al.	
	AD*	US-3,869,500	03-04-1975	Kominami et al.	
	AE*	US-3,894,164	07-08-1975	Dismukes et al.	
	AF*	US-3,988,425	10-26-1976	Jockel et al.	
	AG*	US-3,992,498	11-16-1976	Morton et al.	
	AH*	US-4,010,233	03-01-1977	Winter et al.	
	AI*	US-4,016,189	04-05-1977	Muller et al.	
	AJ*	US-4,048,244	09-13-1977	Hayes	
	AK*	US-4,052,296	10-04-1977	Montagna	
	AL*	US-4,071,436	01-31-1978	Blanton, Jr. et al.	
	AM*	US-4,072,600	02-07-1978	Schwartz	
	AN*	US-4,082,520	04-04-1978	Baron et al.	
	AO*	US-4,093,535	06-06-1978	Schwartz	
	AP*	US-4,097,353	06-27-1978	Kishida et al.	
	AQ*	US-4,131,496	12-26-1978	Weitzel et al.	
	AR*	US-4,147,763	04-03-1979	McKinzie et al.	
	AS*	US-4,153,535	05-08-1979	Vasalos et al.	
	AT*	US-4,162,963	07-31-1979	Gorin	
	AU*	US-4,173,454	11-06-1979	Heins	
	AV*	US-4,192,855	03-11-1980	Ginger	
	AW*	US-4,199,435	04-22-1980	Chessmore et al.	
	AX*	US-4,238,317	12-09-1980	Vasalos et al.	
	AY*	US-4,247,730	01-27-1981	Brunelle et al.	
	AZ*	US-4,254,558	03-10-1981	Mayer	
	AA1*	US-4,254,616	03-10-1981	Siminski et al.	
	AB1*	US-4,255,403	03-10-1981	Mayer et al.	
	AC1*	US-4,261,862	04-14-1981	Kinoshita et al.	
	AD1*	US-4,263,020	04-21-1981	Eberly, Jr.	
	AE1*	US-4,274,942	06-23-1981	Bartholic et al.	
	AF1*	US-4,274,981	06-23-1981	Suzuki et al.	
	AG1*	US-4,280,898	07-28-1981	Tatterson et al.	
	AH1*	US-4,282,084	08-04-1981	Gross et al.	
	AI1*	US-4,325,817	04-20-1982	Bartholic et al.	
	AJ1*	US-4,358,297	11-09-1982	Eberly, Jr.	
	AK1*	US-4,374,819	02-22-1983	Palilla et al.	
	AL1*	US-4,376,103	03-08-1983	Bertolacini et al.	
	AM1*	US-4,381,993	05-03-1983	Nevitt	
	AN1*	US-4,422,888	12-27-1983	Stutius	
	AO1*	US-4,425,312	01-10-1984	Brignac	
	AP1*	US-4,432,864	02-21-1984	Myers et al.	
	AQ1*	US-4,432,896	02-21-1984	Sugiyama et al.	
	AR1*	US-4,434,044	02-28-1984	Busch et al.	
	AS1*	US-4,452,854	06-05-1984	Memiam et al.	

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				First Named Inventor	Albert A. VIERHEILIG
				Art Unit	1764
				Examiner Name	P. C. Singh
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/P.S./	AT1*	US-4,465,588	08-14-1984	Occelli et al.
	AU1*	US-4,465,779	08-14-1984	Occelli et al.
	AV1*	US-4,469,588	09-04-1984	Hettinger, Jr. et al.
	AW1*	US-4,469,589	09-04-1984	Yoo et al.
	AX1*	US-4,472,267	09-18-1984	Yoo et al.
	AY1*	US-4,481,103	11-06-1984	Krambeck et al.
	AZ1*	US-4,485,184	11-27-1984	Hettinger, Jr. et al.
	AA2*	US-4,492,677	01-08-1985	Yoo et al.
	AB2*	US-4,492,678	01-08-1985	Yoo et al.
	AC2*	US-4,495,304	01-22-1985	Yoo et al.
	AD2*	US-4,495,305	01-22-1985	Yoo et al.
	AE2*	US-4,515,683	05-07-1985	Beck et al.
	AF2*	US-4,519,897	05-28-1985	De Jong et al.
	AG2*	US-4,520,120	05-28-1985	Mitchell et al.
	AH2*	US-4,521,389	06-04-1985	Blanton, Jr. et al.
	AI2*	US-4,522,937	06-11-1985	Yoo et al.
	AJ2*	US-4,549,958	10-29-1985	Beck et al.
	AK2*	US-4,585,632	04-29-1986	Schneider et al.
	AL2*	US-4,602,993	07-29-1986	Myers
	AM2*	US-4,609,537	09-02-1986	Tolpin et al.
	AN2*	US-4,609,539	09-02-1986	Horecky et al.
	AO2*	US-4,613,428	09-23-1986	Edison
	AP2*	US-4,617,175	10-14-1986	Tolpin et al.
	AQ2*	US-4,622,210	11-11-1986	Hirschberg et al.
	AR2*	US-4,642,178	02-10-1987	Yoo et al.
	AS2*	US-4,650,564	03-17-1987	Occelli et al.
	AT2*	US-4,692,318	09-08-1987	Tolpin et al.
	AU2*	US-4,708,785	11-24-1987	Myers, deceased
	AV2*	US-4,708,786	11-24-1987	Occelli
	AW2*	US-4,728,635	03-01-1988	Bhattacharyya et al.
	AX2*	US-4,735,705	04-05-1988	Burk, Jr. et al.
	AY2*	US-4,790,982	12-13-1988	Yoo et al.
	AZ2*	US-4,824,815	04-25-1989	Kugler
	AA3*	US-4,836,993	06-06-1989	Bertolacini et al.
	AB3*	US-4,866,019	09-12-1989	van Broekhoven et al.
	AC3*	US-4,883,783	11-28-1989	Burk, Jr. et al.
	AD3*	US-4,889,615	12-26-1989	Chin et al.
	AE3*	US-4,944,865	07-31-1990	Occelli et al.
	AF3*	US-4,946,581	08-07-1990	van Broekhoven et al.
	AG3*	US-4,952,382	08-28-1990	van Broekhoven et al.
	AH3*	US-4,957,718	09-18-1990	Yoo et al.
	AJ3*	US-4,963,520	10-16-1990	Yoo et al.
	AJ3*	US-4,973,399	11-27-1990	Green et al.
	AK3*	US-5,037,538	08-06-1991	Chin et al.
	AL3*	US-5,079,203	01-07-1992	Pinnavaia et al.
	AM3*	US-5,114,898	05-19-1992	Pinnavaia et al.
	AN3*	US-5,130,012	07-14-1992	Edwards et al.

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				Art Unit	1764
				Examiner Name	P. C. Singh
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				0113222.00146US1	

/P.S./	A03*	US-5,174,890	12-29-1992	Occelli	
	AP3*	US-5,229,091	07-20-1993	Buchanan et al.	
	AQ3*	US-5,260,240	11-09-1993	Guthrie et al.	
	AR3*	US-5,262,203	11-16-1993	Lesher et al.	
	AS3*	US-5,270,272	12-14-1993	Galperin et al.	
	AT3*	US-5,288,675	02-22-1994	Kim	
	AU3*	US-5,292,492	03-08-1994	Buchanan et al.	
	AV3*	US-5,324,416	06-28-1994	Cormier et al.	
	AW3	US-5,346,563	09-13-1994	Allén et al.	
	AX3*	US-5,364,517	11-15-1994	Dieckmann et al.	
	AY3*	US-5,371,055	12-06-1994	Cormier et al.	
	AZ3*	US-5,380,442	01-10-1995	Yan	
	AA4*	US-5,384,301	01-24-1995	Flytzani-Stephanopoulos et al.	
	AB4*	US-5,399,327	03-21-1995	Kim	
	AC4*	US-5,407,878	04-18-1995	Kim	
	AD4*	US-5,422,332	06-06-1995	Demmel	
	AE4*	US-5,429,727	07-04-1995	Vogt et al.	
	AF4*	US-5,437,783	08-01-1995	Cuthbert et al.	
	AG4*	US-5,458,861	10-17-1995	Buchanan et al.	
	AH4*	US-5,472,677	12-05-1995	Farris et al.	
	AI4*	US-5,492,684	02-20-1996	Buchanan et al.	
	AJ4*	US-5,494,879	02-27-1996	Jin et al.	
	AK4*	US-5,503,814	04-02-1996	Demmel	
	AL4*	US-5,514,351	05-07-1996	Buchanan et al.	
	AM4*	US-5,545,604	08-13-1996	Demmel	
	AN4*	US-5,547,548	08-20-1996	Siddoway	
	AO4*	US-5,547,648	08-20-1996	Buchanan et al.	
	AP4*	US-5,552,362	09-03-1996	Immel et al.	
	AQ4*	US-5,559,067	09-24-1996	Lerner et al.	
	AR4*	US-5,565,181	10-15-1996	Dieckmann et al.	
	AS4*	US-5,567,224	10-22-1996	Kundrat	
	AT4*	US-5,586,714	12-24-1996	Curicuta et al.	
	AU4*	US-5,591,417	01-07-1997	Buchanan et al.	
	AV4*	US-5,591,418	01-07-1997	Bhattacharyya et al.	
	AW4	US-5,593,558	01-14-1997	Sugino et al.	
	AX4*	US-5,609,845	03-11-1997	Cimini et al.	
	AY4*	US-5,618,406	04-08-1997	Demmel	
	AZ4*	US-5,627,123	05-06-1997	Kim	
	AA5*	US-5,652,060	07-29-1997	Uchida et al.	
	AB5*	US-5,687,565	11-18-1997	Modica et al.	
	AC5*	US-5,705,136	01-06-1998	Drago et al.	
	AD5*	US-5,723,039	03-03-1998	Zosimov et al.	
	AE5*	US-5,728,358	03-17-1998	Avidan et al.	
	AF5*	US-5,741,469	04-21-1998	Bhore et al.	
	AG5*	US-5,750,020	05-12-1998	Bhattacharyya et al.	
	AH5*	US-5,753,198	05-19-1998	Ayala et al.	
	AI5*	US-5,762,892	06-09-1998	Kasahara et al.	

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				0113222.00146US1	

/P.S./	AJ5*	US-5,792,338	08-11-1998	Gosling et al.	
	AK5*	US-5,792,436	08-11-1998	Feeley et al.	
	AL5*	US-5,805,973	09-08-1998	Coffinberry et al.	
	AM5*	US-5,866,496	02-02-1999	Albers et al.	
	AN5*	US-5,874,019	02-23-1999	Uchida et al.	
	AO5*	US-5,882,618	03-16-1999	Ziebarth et al.	
	AP5*	US-5,894,035	04-13-1999	Cinibulk et al.	
	AQ5*	US-5,908,804	06-01-1999	Menon et al.	
	AR5*	US-5,914,293	06-22-1999	Bhattacharyya et al.	
	AS5*	US-5,916,129	06-29-1999	Modica et al.	
	AT5*	US-5,928,496	07-27-1999	Albers et al.	
	AU5*	US-5,928,497	07-27-1999	Iaccino	
	AV5*	US-5,948,726	09-07-1999	Moskovitz et al.	
	AW5	US-5,955,045	09-21-1999	Baur et al.	
	AX5*	US-5,958,359	09-28-1999	Buchanan et al.	
	AY5*	US-5,965,100	10-12-1999	Khanmamedov	
	AZ5*	US-5,968,870	10-19-1999	Iizuka et al.	
	AA6*	US-5,972,828	10-26-1999	Doi et al.	
	AB6*	US-5,984,997	11-16-1999	Bickmore et al.	
	AC6*	US-5,990,030	11-23-1999	McCauley	
	AD6*	US-5,998,232	12-07-1999	Maruska	
	AE6*	US-6,001,241	12-14-1999	Gosling et al.	
	AF6*	US-6,027,704	02-22-2000	Johnson et al.	
	AG6*	US-6,030,597	02-29-2000	Buchanan et al.	
	AH6*	US-6,074,984	06-13-2000	Demmel, deceased et al.	
	AI6*	US-6,129,834	10-10-2000	Peters et al.	
	AJ6*	US-6,156,696	12-05-2000	Albers et al.	
	AK6*	US-6,200,445	03-13-2001	Yokota et al.	
	AL6*	US-6,274,530	08-14-2001	Cayton et al.	
	AM6*	US-6,281,164	08-28-2001	Demmel et al.	
	AN6*	US-6,306,793	10-23-2001	Turk et al.	
	AO6*	US-6,338,830	01-15-2002	Moskovitz et al.	
	AP6*	US-6,338,831	01-15-2002	Strehlau et al.	
	AQ6*	US-6,419,890	07-16-2002	Li	
	AR6*	US-20030039597-A1	02-27-2003	Deeba et al.	
	AS6*	US-20030089640-A1	05-15-2003	Madon et al.	
	AT6*	US-20030096697-A1	05-22-2003	Vierheilig	
	AU6*	US-6,579,820-A1	06-17-2003	Tamhankar et al.	
	AV6*	US-6,585,945-A1	07-01-2003	Wu et al.	
	AW6	US-6,610,264	08-26-2003	Buchanan et al.	
	AX6*	US-20030203806-A1	10-30-2003	Vierheilig	
	AY6*	US-20040031730-A1	02-19-2004	Gislason et al.	
	AZ6*	US-6,699,448-A1	03-02-2004	Wu et al.	
	AA7*	US-6,716,338-A1	04-06-2004	Madon et al.	
	AB7*	US-20040077492-A1	04-22-2004	Yaluris et al.	
	AC7*	US-20040152586-A1	08-05-2004	Ou et al.	
	AD7*	US-6,777,370-A1	08-17-2004	Chen	

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Art Unit	1764
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

/P.S./	AE7*	US-20050038306-A1	02-17-2005	Beech et al.	
	AF7*	US-6,866,834-A1	03-15-2005	Nakamura et al.	
	AG7*	US-20050095188-A1	05-05-2005	Matsumoto et al.	
	AH7*	US-6,914,033-A1	07-05-2005	Gislason et al.	
	AI7*	US-6,923,945-A1	08-02-2005	Chen	
	AJ7*	US-6,929,736-A1	08-16-2005	Vierheilig	
	AK7*	US-20050207956-A1	09-22-2005	Vierheilig	
	AL7*	US-20050227058-A1	10-13-2005	Ohashi et al.	
	AM7*	US-20050234278-A1	10-20-2005	van Egmond et al.	
	AN7*	US-7,067,093-A1	06-27-2006	Vierheilig et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ²
		Country Code ³ -Number ⁴ -Kind Code ⁵ (# known)				
	BA	EP-0045170	02-03-1982	Atlantic Richfield Company		✓
	BB	EP-158858	10-16-1991	Katalistiks International Incorporated		✓
	BC	EP-0263171	11-25-1992	UOP		✓
	BD	WO-95/03876	02-09-1995	Consejo Superior Investigaciones Cientificas		✓
	BE	WO-95/17265	06-29-1995	Ferro Corporation		✓
	BF	EP-0318808	02-14-1996	W.R. Grace & Co.		✓
	BG	WO-99/26714	06-03-1999	Mobil Oil Corporation		✓
	BH	WO-99/42201-A1	08-26-1999	Bulldog Technologies U.S.A.		✓
	BI	EP-0740580	10-06-1999	Mobil Oil Corporation		✓
	BJ	CN-1275435	12-06-2000	China Petrochemical Group Corp		✓
	BK	EP-1156012	11-21-2001	Exxonmobil Oil Corporation		✓
	BL	EP-0636107	02-13-2002	Exxonmobil Oil Corporation		✓
	BM	WO-02/058819	08-01-2002	Engelhard Corporation		✓
	BN	EP-1241329	09-18-2002	Nissan Motor Company Limited		✓
✓	BO	WO-03/018178	03-06-2003	Engelhard Corporation		✓
✓	BP	WO-05/060519	07-07-2005	Intercat, Inc.		✓

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. *CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(e)(2)(ii)) because that application was filed after June 30, 2003 or is available in the IFW. *Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.18 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
/P.S./ CA		Cavani et al., Hydrotalcite-Type Anionic Clays: Preparation, Properties and Applications.	

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<i>PS</i>	Catalysis Today, 11 (1991), pp. 173-301		
/P.S./	CB	Corma et al., "Simultaneous Catalytic Removal of Sox and Nox with Hydrotalcite-derivatized Mixed Oxides Containing Copper, and their Possibilities to be Used in FCC Units," J. of Catalysts, Vol 170, pp. 140-149 (1997)	
/P.S./	CC	Shannon et al., "Hydrotalcite-derived mixed oxides containing copper: Catalysts for the removal of Nitric Oxide," J. Chem. Soc., Faraday Trans., Vol 92, pp. 4331-4336 (1996)	
/P.S./	CD	Taylor, "Crystal Structures of Some Double Hydroxide Minerals," Mineralogical Magazine, Vol. 39, No. 304, pp. 377-389 (Dec. 1973)	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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